UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,564	03/30/2001	Gina Danielle Venolia	M61.12-0329	7211

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EXAMINER
RIES, LAURIE ANNE

ART UNIT	PAPER NUMBER
2176	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/822,564	VENOLIA, GINA DANIELLE
	Examiner	Art Unit
	Laurie Ries	2176

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 March 2001_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-22_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _30 March 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _5/9/02_.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Durrani

(U.S. Patent 6,011,542).

As per claim 1, Durrani discloses a method of providing selected text into a

computer including (a) selecting a character in a range of characters (See Durrani,

Figure 3, and Column 3, lines 43-54), (b) selecting a word as a function of the selected

character (See Durrani, Figure 6, and Column 5, lines 34-49), (c) presenting the word to

the user (See Durrani, Figure 6, element 670, and Column 5, lines 40-44), and (d)

receiving an action from the user pertaining to the selected character (See Durrani,

Column 5, lines 48-53).

As per claim 2, Durrani discloses that the step of receiving includes an indication

that a desired character is in a range preceding or succeeding the selected character

(See Durrani, Figure 5, elements 525 and 520, Column 4, lines 59-67, and Column 5,

lines 1-22), and that steps (a) - (d) are repeated where the range of characters is

bounded by the selected character (See Durrani, Figure 3, and Column 3, lines 43-52).

As per claim 3, Durrani discloses that the step of receiving includes receiving an

indication to retain the selected character as one of a set of retained characters (See

Durrani, Column 3, lines 43-53, and Figure 3), and that steps (a) - (d) are repeated

where selecting a word includes selecting a word as a function of the set of retained

characters (See Durrani, Column 5, lines 35-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 6-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Durrani (U.S. Patent 6,011,542) in view of Connolly (U.S. Patent 6,005,495).

As per claim 4, Durrani discloses the limitations of claim 3 as described above.

Durrani also discloses repeating steps (a) – (d) (See Durrani, Figure 3, and Column 3,

lines 43-52). Durrani does not disclose expressly that the step of receiving includes

receiving an indication to accept the set of characters, where steps (a) - (d) are

repeated with the set of retained characters including an empty set and the range of

characters including a full range of characters. Connolly discloses an indication to

accept the set of characters and the inclusion of an empty set and the range of

characters including a full range of characters (See Connolly, Column 3, lines 23-33).

Durrani and Connolly are analogous art because they are from the same field of

endeavor of entering text on a device with a limited display area. At the time of the

invention it would have been obvious to a person of ordinary skill in the art to include the indication to accept a set of characters and the inclusion of an empty set and a full range of characters of Connolly with the method of selecting a character of Durrani. The motivation for doing so would have been to create a context N-gram to later determine the probabilities of selection for each character associated with a key on the keypad (See Connolly, Column 3, lines 6-11). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of creating a context N-gram for each character, thus allowing for the calculation of probabilities of selection, to obtain the invention as specified in claim 4.

As per claims 6 and 7, Durrani discloses the limitations of claim 3 as described above. Durrani does not disclose expressly that the step of selecting a character includes selecting the character as a function of a probability of the character in the range of characters and that the step of selecting a word includes selecting the word as a function of a probability of the word. Connolly discloses selecting a character as a function of a probability of the character in the range of characters (See Connolly, Column 3, lines 45-47, and Figure 4, element 450) and selecting a word as a function of a probability of the word (See Connolly, Column 2, lines 41-55). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the selection of a character and a word as a probability of the character in the range of characters and the word as a function of a probability of the word, respectively, of Connolly, with the method of

selecting a character and a word of Durrani. The motivation for doing so would have been to determine the entry which is most likely to be entered next by the user and return that entry (See Connolly, Column 3, lines 48-53). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of predicting the next entry by the user to obtain the invention as specified in claims 6 and 7.

As per claim 8, Durrani discloses the limitations of claim 3 as described above. Durrani also discloses repeating steps (a) through (d) (See Durrani, Figure 3, and Column 3, lines 43-52). Durrani does not disclose expressly that selecting a character includes selecting a character as a function of a refined range of characters for each succession. Connolly discloses that selecting a character includes selecting a character as a function of a refined range of characters for each succession (See Connolly, Column 4, lines 32-53). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the selection of a character from a refined range of characters of Connolly with the method of selecting a character of Durrani. The motivation for doing so would have been to limit the possible characters available for the next selection and thereby increase the probability of a correct prediction of the user's choice (See Connolly, Column 3, lines 34-53). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of increasing the possibility of a correct prediction of the user's next entry to obtain the invention as specified in claim 8.

As per claim 9, Durrani and Connolly disclose the limitations of claim 8 as described above. Connolly also discloses repeating the steps of selecting a character, presenting a word to the user and receiving an action from the user when a new word cannot be selected (See Connolly, Column 5, lines 13-30). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the repeating the steps of selecting a character, presenting a word to the user and receiving an action from the user when a new word cannot be selected of Connolly with the method of receiving an action from a user. The motivation for doing so would have been to allow the user to continue entering characters until the correct word is attained (See Connolly, Column 4, lines 32-53). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of allowing the user to enter characters to arrive at the correct word to obtain the invention as specified in claim 9.

As per claim 10, Durrani and Connolly disclose the limitations of claim 8 as described above. Durrani also discloses that selecting a character includes selecting a character as a function of the set of retained characters (See Durrani, Column 5, lines 50-56).

As per claim 11, Durrani and Connolly disclose the limitations of claim 10 as described above. Connolly also discloses that selecting the character includes selecting the character as a function of an N-gram model. Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a

device with a limited display area. At the time of the invention it would have been

obvious to a person of ordinary skill in the art to include the selection of a character as a

function of an N-gram model of Connolly with the method of selecting a character of

Durrani and Connolly. The motivation for doing so would have been to limit the possible

characters available for the next selection and thereby increase the probability of a

correct prediction of the user's choice (See Connolly, Column 3, lines 34-53).

Therefore, it would have been obvious to combine Connolly with Durrani and Connolly

for the benefit of increasing the possibility of a correct prediction of the user's next entry

to obtain the invention as specified in claim 11.

As per claims 12 and 13, Durrani discloses the limitations of claim 3 as described

above. Durrani does not disclose expressly that receiving an action includes receiving

an indication to retain a number of characters of the word in the set of retained

characters and that receiving an action includes receiving an indication to present only

the retained set of characters. Connolly discloses receiving an indication to retain a

number of characters of the word in the set of retained characters and to present only

the retained set of characters (See Connolly, Column 2, lines 42-43). Durrani and

Connolly are analogous art because they are from the same field of endeavor of

entering text on a device with a limited display area. At the time of the invention it would

have been obvious to a person of ordinary skill in the art to include the retention of a

number of characters of the word in the set of retained characters and presentation of

the retained characters of Connolly with the method of Durrani. The motivation for

doing so would have been to allow the user to retain characters and view the retained

characters until a word is attained (See Connolly, Column 4, lines 32-53). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of allowing the user to retain characters and view the retained characters to arrive at a word to obtain the invention as specified in claims 12 and 13.

As per claim 14, Durrani discloses the limitations of claim 1 as described above. Durrani does not disclose expressly receiving an indication to set the range of characters to a selected set of characters. Connolly discloses receiving an indication to set the range of characters to a selected set of characters (See Connolly, Column 4, lines 35-39). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the range of characters set to a selected set of characters of Connolly with the method of Durrani. The motivation for doing so would have been to limit the possible characters available for the next selection and thereby increase the probability of a correct prediction of the user's choice (See Connolly, Column 3, lines 34-53). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of increasing the possibility of a correct prediction of the user's next entry to obtain the invention as specified in claim 14.

As per claim 15, Durrani discloses a method of providing selected text into a computer including (a) selecting a word as a function of a set of retained characters (See Durrani, Figure 6, and Column 5, lines 34-57), and (b) presenting the word to the user (See Durrani, Figure 6, element 670, and Column 5, lines 40-44). Durrani does not

disclose expressly (c) receiving an action from the user pertaining to a character in the word following the set of retained characters. Connolly discloses receiving an action form the user pertaining to a character in the word following the set of retained characters (See Connolly, Column 6, lines 37-55). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the receipt of an action from the user pertaining to a character in the word following the set of retained characters of Connolly with the method of Durrani. The motivation for doing so would have been to allow the user to enter and confirm or reject a character using a limited number of keystrokes (See Connolly, Column 6, lines 56-67). Therefore, it would have been obvious to combine Connolly with Durrani for the benefit of allowing the user to enter and confirm or reject a character using a limited number of keystrokes to obtain the invention as specified in claim 15.

As per claim 16, Durrani and Connolly disclose the limitations of claim15 as described above. Durrani also discloses repeating steps (a) and (b) (See Durrani, Figure 3, and Column 3, lines 43-52). Connolly also discloses receiving an indication that a desired character to be added to the set of retained characters precedes or succeeds the presented word and repeating step (c) with the range of words bounded by the presented word (See Connolly, Column 6, lines 35-41, and Column 4, lines 32-53). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the

invention it would have been obvious to a person of ordinary skill in the art to include the

receipt of an indication that a desired character to be added to the set of retained

characters precedes or succeeds the presented word and the repetition of step (c) with

the range of words bounded by the presented word of Connolly with the method of

Durrani and Connolly. The motivation for doing so would have been to limit the possible

characters available for the next selection and thereby increase the probability of a

correct prediction of the user's choice (See Connolly, Column 3, lines 34-53).

Therefore, it would have been obvious to combine Connolly with Durrani and Connolly

for the benefit of increasing the possibility of a correct prediction of the user's next entry

to obtain the invention as specified in claim 16.

As per claim 17, Durrani and Connolly disclose the limitations of claim16 as

described above. Durrani also discloses repeating steps (a) and (b) (See Durrani,

Figure 3, and Column 3, lines 43-52). Connolly also discloses receiving an indication to

retain a character of the word following characters of the word corresponding to the set

of retained characters and repeating step (c) including selecting a word as a function of

the new set of retained characters. Durrani and Connolly are analogous art because

they are from the same field of endeavor of entering text on a device with a limited

display area. At the time of the invention it would have been obvious to a person of

ordinary skill in the art to include the receipt of an indication to retain a character of the

word following characters of the word corresponding to the set of retained characters

and repetition of selecting a word as a function of the new set of retained characters of

Connolly with the method of Durrani and Connolly. The motivation for doing so would

have been to limit the possible characters available for the next selection and thereby

increase the probability of a correct prediction of the user's choice (See Connolly,

Column 3, lines 34-53). Therefore, it would have been obvious to combine Connolly

with Durrani and Connolly for the benefit of increasing the possibility of a correct

prediction of the user's next entry to obtain the invention as specified in claim 17.

As per claim 18, Durrani discloses a computing device including an input device

(See Durrani, claim 23), an output device (See Durrani, claim 23), a processor (See

Durrani, Column 3, lines 23-52), and a module to execute the selection of a character in

a range of characters, the selection of a word from the lexicon as a function of the

selected character, the presentation of the word to the user through the output device,

and the receipt of an action from the user through the input device pertaining to the

selected character (See Durrani, Figure 3, Column 3, lines 43-54, Figure 6, and Column

5, lines 34-53) Durrani does not disclose expressly a memory storing a lexicon.

Connolly discloses a memory storing a lexicon (See Connolly, Figure 3, element 370,

and Column 7, lines 53-60). Durrani and Connolly are analogous art because they are

from the same field of endeavor of entering text on a device with a limited display area.

At the time of the invention it would have been obvious to a person of ordinary skill in

the art to include the memory storing a lexicon of Connolly with the computing device of

Durrani. The motivation for doing so would have been to store the lexicon for use in the

next context N-gram that is created (See Connolly, Column 7, lines 53-55). Therefore, it

would have been obvious to combine Connolly with Durrani for the benefit of storing the

lexicom for use in the next context N-gram created to obtain the invention as specified in claim 18.

As per claim 19, Durrani and Connolly disclose the limitations of claim 18 as described above. Connolly also discloses that the input device includes isolated buttons indicative of different responses (See Connolly, Figure 2). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the isolated buttons indicative of different responses of Connolly with the computing device of Durrani and Connolly. The motivation for doing so would have been to allow a user to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers (See Connolly, Column 2, lines 58-61). Therefore, it would have been obvious to combine Connolly with Durrani and Connolly for the benefit of allowing users to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers to obtain the invention as specified in claim 19.

As per claim 20, Durrani and Connolly disclose the limitations of claim 19 as described above. Connolly also discloses that at least some of the buttons are indicative of a subset of the alphabet (See Connolly, Figure 2). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the buttons indicative of a subset of the alphabet of Connolly with the computing device of Durrani and Connolly.

The motivation for doing so would have been to allow a user to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers (See Connolly, Column 2, lines 58-61). Therefore, it would have been obvious to combine Connolly with Durrani and Connolly for the benefit of allowing users to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers to obtain the invention as specified in claim 20.

As per claims 21 and 22, Durrani and Connolly disclose the limitations of claims 19 and 20 as described above. Connolly also discloses that the computing device includes a telephone and a pager (See Connolly, Column 2, lines 65-67). Durrani and Connolly are analogous art because they are from the same field of endeavor of entering text on a device with a limited display area. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the telephone and pager of Connolly with the computing device of Durrani and Connolly. The motivation for doing so would have been to allow a user to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers (See Connolly, Column 2, lines 58-61). Therefore, it would have been obvious to combine Connolly with Durrani and Connolly for the benefit of allowing users to easily enter arbitrary text using a standard telephone to create custom messages on alpha-numeric pagers to obtain the invention as specified in claims 21 and 22.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over over

Durrani (U.S. Patent 6,011,542) in view of Connolly (U.S. Patent 6,005,495) as applied

to claim 4 above, and further in view of Bloomfield (U.S. Patent 6,025,931).

As per claim 5, Durrani and Connolly disclose the limitations of claim 4 as

described above. Durrani also discloses repeating steps (a) through (d) (See Durrani,

Figure 3, and Column 3, lines 43-52). Durrani and Connolly do not disclose expressly

receiving an indication to remove a character from the set of retained characters.

Bloomfield discloses receiving an indication to remove a character from a set of retained

characters (See Bloomfield, Column 15, lines 39-46). Durrani, Connolly and Bloomfield

are analogous art because they are from the same problem solving area of entering text

on a device with a limited display area. At the time of the invention it would have been

obvious to a person of ordinary skill in the art to include the indication to remove a

character from a set of retained characters of Bloomfield with the method of Durrani and

Connolly. The motivation for doing so would have been to delete an entry and return

the user to an idle state (See Bloomfield, Column 15, lines 44-45). Therefore, it would

have been obvious to combine Bloomfield with Durrani and Connolly for the benefit of

deleting an entry and returning the user to an idle state to obtain the invention as

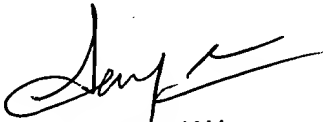specified in claim 5.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Watanabe (U.S. Patent 6,567,072) discloses a character input device and method.

- Silfverberg discloses predicting text entry speed on mobile phones.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurie Ries whose telephone number is (571) 272-4095. The examiner can normally be reached on Monday-Friday from 7:00am to 3:30pm.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild, can be reached at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LR

SANJIV SHAH
PRIMARY EXAMINER